



Riparian Forest Buffer

Conservation Practice Job Sheet

391

Natural Resources Conservation Service (NRCS)

April 1997

Landowner _____



Definition

A riparian forest buffer is an area of trees and shrubs located adjacent to streams, lakes, ponds, and wetlands.

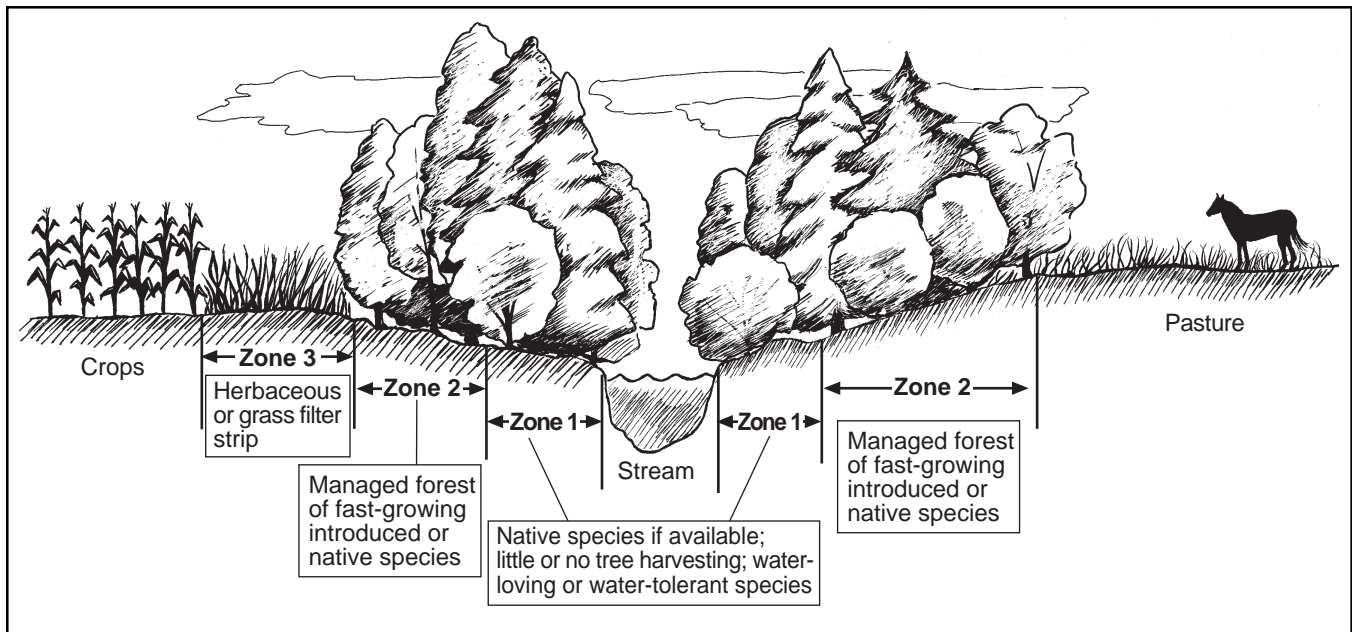
Purpose

Riparian forest buffers of sufficient width intercept sediment, nutrients, pesticides, and other materials in surface runoff and reduce nutrients and other pollutants in shallow subsurface water flow. Woody vegetation in buffers provides food and cover for wildlife, helps lower water temperatures by shading waterbody, and slows

out-of-bank flood flows. In addition, the vegetation closest to the stream or waterbody provides litter fall and large woody debris important to aquatic organisms. Also, the woody roots increase the resistance of streambanks and shorelines to erosion caused by high water flows or waves. Some species established or managed in a riparian forest buffer can be managed to provide timber, wood fiber, and horticultural products.

Where used

Buffers are located by permanent or intermittent streams, lakes, ponds, wetlands, and seeps. Many of these areas have year-round or seasonal beneficial



A riparian forest buffer includes zone 1, the area closest to the waterbody or course, and zone 2, the area adjacent to and up gradient of zone 1. Trees and shrubs in zone 1 provide important wildlife habitat, litter fall for aquatic organisms, and shading to lower water temperature. This zone helps stabilize streambanks and shorelines. Trees and shrubs in zone 2 (along with zone 1) intercept sediment, nutrients, pesticides, and other pollutants in surface and subsurface water flows. Zone 2 can be managed to provide timber, wood fiber, and horticultural products. A third zone, zone 3, is established if periodic and excessive water flows, erosion, and sediment from upslope fields or tracts are anticipated. Zone 3 is generally of herbaceous plants or grass and a diversion or terrace, if needed. This zone provides a “first defense” to assure proper functioning of zones 1 and 2.

moisture, which allows woody species to establish quickly. A new riparian forest buffer can rapidly benefit a variety of settings, such as cropland, rangeland, forest land, and urban areas.

Conservation management system

Riparian forest buffers are normally established concurrently with other practices as part of a conservation management system. For example, adjoining streambanks or shorelines must be stabilized before or in conjunction with the establishment of the buffer (streambank and shoreline protection). To maintain proper functioning of a planting, excessive water flows and erosion must be controlled upslope of the riparian forest buffer (filter strip, diversion, critical area planting). New plantings must be protected from grazing during establishment.

Wildlife

Connecting a buffer with existing perennial vegetation, such as woodlots and woody draws (tree/shrub establishment) or hedgerows (windbreak/shelterbelt establishment), benefits wildlife and aesthetics. Select species and a planting pattern that benefits the wildlife species of interest.

Operation and maintenance

Trees in the buffer as well as adjacent forested areas are periodically maintained and harvested (forest stand improvement and forest harvest trails and landings). As the buffer matures, periodic harvesting of some of the trees becomes an important activity for maintaining plant health and buffer function.

Specifications

Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet. Specifications are prepared in accordance with the NRCS Field Office Technical Guide. See practice standard Riparian Forest Buffer code 391.